

CLAIMS

What is claimed is:

1. An apparatus for cutting open a case of product, the case having a top and a bottom, comprising:
 - 5 a conveyor having a first end and a second end and being adapted to move the case from the first end to the second end;
 - a top cutting apparatus having at least one cutting device and being adapted to cut open the top of the case;
 - a lift apparatus having first and second arrays of suction cups, the first
10 array of suction cups being adapted to open the top of the case and the second array of suction cups being adapted to lift the product from the bottom of the case; and
 - a bottom cutting apparatus having at least one cutting device and being adapted to cut the case thereby separating the bottom of the case from the top of the case.
- 15 2. An apparatus, as set forth in claim 1, including a control system for automatically controlling the conveyor, top cutting apparatus, lift apparatus and bottom cutting apparatus.
- 20 3. An apparatus, as set forth in claim 2, wherein said control system includes a control box with a start button and a stop button.

4. An apparatus, as set forth in claim 1, wherein the top cutting apparatus includes a pair of stationery rotary knives positioned transverse to the top of the case, the top cutting apparatus being adapted to cut the top of the box along first and second opposite sides of the top of the case.

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5. An apparatus, as set forth in claim 4, wherein the top cutting apparatus includes a movable rotary knife positioned transverse to the top of the case, the top cutting apparatus being adapted to cut the top of the box from the first opposite side to the second opposite side.

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6. An apparatus, as set forth in claim 1, wherein the bottom cutting apparatus includes first and second bottom cutting rotary knives.

7. An apparatus, as set forth in claim 6, wherein the first and second bottom cutting rotary knives are positioned on opposite sides of the case transverse to sides of the case.

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8. An apparatus, as set forth in claim 7, wherein the first bottom cutting rotary knife is horizontally offset from the second bottom cutting rotary knife.

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9. An apparatus, as set forth in claim 1, wherein the top cutting apparatus is adapted to cut the top of the case in a generally "H" shaped pattern.

10. An apparatus for cutting open a case of product, the case having a top and a bottom, comprising:

a conveyor having a first and a second end and being adapted to move the case from the first end to the second end;

5 a first top cutting apparatus having first and second cutting devices and being adapted to cut the top of the case along first and second opposite sides of the top of the case;

a second top cutting apparatus having a third cutting device and being adapted to cut the top of the case between the opposite sides;

10 a lift apparatus having first and second arrays of suction cups, the first array of suction cups being adapted to open the top of the case and the second array of suction cups being adapted to lift the product from the bottom of the case; and

a bottom cutting apparatus having at least one cutting device and being adapted to cut the case thereby separating the bottom of the case from the top of the case.

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11. An apparatus, as set forth in claim 10, including a control system for automatically controlling the conveyor, top cutting apparatus, lift apparatus and bottom cutting apparatus.

20 12. An apparatus, as set forth in claim 11, wherein said control system includes a control box with a start button and a stop button.

13. An apparatus, as set forth in claim 10, wherein the first top cutting apparatus includes a pair of stationery rotary knives positioned transverse to the top of the case, the top cutting apparatus being adapted to cut the top of the box along first and second opposite sides of the top of the case.

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14. An apparatus, as set forth in claim 13, wherein the second top cutting apparatus includes a movable rotary knife positioned transverse to the top of the case, the top cutting apparatus being adapted to cut the top of the box from the first opposite side to the second opposite side.

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15. An apparatus, as set forth in claim 10, wherein the bottom cutting apparatus includes first and second bottom cutting rotary knives.

16. An apparatus, as set forth in claim 11, wherein the first and second bottom cutting rotary knives are positioned on opposite sides of the case transverse to sides of the case.

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17. An apparatus, as set forth in claim 16, wherein the first and second bottom cutting rotary knives are horizontally offset.

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18. An apparatus, as set forth in claim 10, wherein the top cutting apparatus is adapted to cut the top of the case in a generally "H" shaped pattern.

19. A method for cutting open a case of product having a top and a bottom,
including the steps of:

- placing the case on a first end of a conveyor belt;
- moving the case to a top cutting apparatus using the conveyor belt;
- 5 cutting open the top of the case;
- moving the case to a lift apparatus using the conveyor;
- opening the top of the case;
- lifting the product from the bottom of the case;
- cutting the case thereby separating the bottom of the case from the top of
- 10 the case.

20. A method, as set forth in claim 19, wherein the step of cutting open the
case includes the step of cutting the top of the box along first and second opposite sides
of the top of the case.

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21. A method, as set forth in claim 20, wherein the step of cutting open the
case includes the step of cutting top cutting the top of the box from the first opposite side
to the second opposite side.

22. A method for cutting open a case of product having a top and a bottom,
including the steps of:

5 placing the case on a first end of a conveyor belt;
moving the case to a first top cutting apparatus using the conveyor belt;
cutting the top of the case along opposite sides of the top of the case;
moving the case to a second top cutting apparatus using the conveyor belt;
cutting the top of the case between the opposite sides;
moving the case to a lift apparatus using the conveyor;
opening the top of the case;

10 lifting the product from the bottom of the case; and,
cutting the case thereby separating the bottom of the case from the top of
the case.